Mr. Jeffery Windlow
Rieter Automotive North America, Inc.
101 West Oakley Avenue
Lowell, Indiana 46356-2206

Re: 089-10909-00013
Minor Source Modification to:
Part 70 permit No.: T089-6629-00013

Dear Mr. Windlow:

Rieter Automotive North America, Inc., was issued Part 70 operating permit T089-6629-00013 on June 16, 1999, for a stationary automotive sound deadening products manufacturing operation. An application to modify the source was received on April 29, 1999. Pursuant to 326 IAC 2-7-10.5 the potential to emit (PTE) for the following emission units has been adjusted to account for captured ammonia vapors from the process which are vented through the thermal oxidizer control unit producing nitrogen oxides ($NO_x$) emitted to the atomosphere:

(a) One (1) existing rebuilt conventional oven rated at 9 million British thermal units per hour (MMBtu/hr) connected through a new modified duct work to a new thermal oxidizer rated at 15 million British thermal units per hour (MMBtu/hr) with a low $NO_x$ burner, exhausting at one (1) stack identified as FCU-2(new). [The thermal oxidizer with low $NO_x$ burner replaced an existing permitted thermal oxidizer rated at 3.70 MMBtu/hr as approved under Exemption No. 089-9217-00013]

The following construction conditions are applicable to the proposed project:

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. All requirements and conditions of this approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

The operating conditions applicable to these emission units were incorporated into the Part 70 operating permit (T089-6629-00013) when it was issued. No change to these conditions are required as a result of this minor source modification.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, press 0 and ask for Janusz Johnson or ask for extension 2-8325, or dial (317) 232-8325.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

JKJ
cc: File - Lake County
U.S. EPA, Region V
Lake County Health Department
Air Compliance - Bob Simmons
Northwest Regional Office
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

# Indiana Department of Environmental Management (IDEM)
# Office of Air Management

## Technical Support Document (TSD) for Minor Source Modification to a Part 70 Operating Permit

### Source Background and Description

| | |
|---|---|
| Source Name: | Rieter Automotive North America, Inc. |
| Source Location: | 101 West Oakley Avenue, Lowell, Indiana 46356 |
| County: | Lake |
| Permit No.: | 089-10909-00013 |
| SIC Code: | 3714 |
| Permit Reviewer: | Janusz Johnson |

The Office of Air Management (OAM) has reviewed an application from Rieter Automotive North America, Inc., relating to the modification of the fully cured padding Line 91 permitted under Exemption No. 089-9217-00013. The project involved the replacement of an existing 3.7 MMBtu/hr incinerator which controlled emissions from a process oven with a new 15 million British thermal unit per hour (MMBtu/hr) thermal oxidizer. Changes in the ductwork made at the time of the replacement also increased the capture efficiency of the control system.

The application submitted by Rieter Automotive North America, Inc., on April 29, 1999, requested revisions to the previous exemption approval and the current Part 70 Operating Permit based on new process emissions information. The previous review of the thermal oxidizer and ductwork modifications assumed that nitrogen oxides ($NO_x$) emissions would only be generated from the combustion of natural gas in the oxidizer burner. However, ammonia is given off from the Line 91 process and is oxidized in the thermal oxidizer producing additional $NO_x$ emissions. The purpose of this review is to address these additional emissions.

### Stack Summary

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature ($^0$F) |
|---|---|---|---|---|---|
| FCU-2(new) | Line 91 Oven | 22 | 5 | 15,000 | 1400 |

### Recommendation

The staff recommends to the Commissioner that the Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on April 29, 1999.

## Emissions Calculations

The change in potential to emit (PTE) nitrogen oxides ($NO_x$) from the Line 91 control system based on the new emissions information submitted by Rieter Automotive is 11.8 tons per year. This change includes 5.7 tons per year of $NO_x$ converted from ammonia ($NH_4$) which has been present since the Line 91 control system was originally installed and 6.1 tons per year of $NO_x$ converted from additional $NH_4$ captured by the improved hooding system approved under Exemption No. 089-9217-00013 issued on May 22, 1998.

See Appendix A (Emissions Calculation Spreadsheets) for a detailed 'de minimus' Emission Offset analysis (1 page) which has been revised to account for the $NO_x$ from converted $NH_4$ associated with the control system modifications done under Exemption No. 089-9217-00013. This analysis does not include $NO_x$ converted from $NH_4$ which was emitted prior to the improved hooding system because those emissions do not fall within the contemporaneous five (5) year period.

## Potential To Emit Before Controls for the Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

| Pollutant | Potential To Emit (tons/year) |
|---|---|
| PM | 0 |
| PM-10 | 0 |
| $SO_2$ | 0 |
| VOC | 0 |
| CO | 0 |
| $NO_x$ * | 11.8 |

* The increase in $NO_x$ emissions for this modification reflects the change in PTE for the source above the levels of emissions addressed in the Title V permit. The increase in PTE is not due to new emission units or a change in the method of operation of the source, but accounts for existing emissions which were previously not included in the review process.

## Justification for Modification

The Title V permit (T089-6629-00013) issued on June 16, 1999, is being modified through a Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d)(4) because the potential to emit nitrogen oxides ($NO_x$) from the modification is less than twenty-five (25) tons per year and equal to or greater than ten (10) tons per year.

**County Attainment Status**

The source is located in Lake County.

| Pollutant | Status |
|---|---|
| PM-10 | moderate nonattainment |
| $SO_2$ | primary nonattainment |
| $NO_2$ | attainment |
| Ozone | severe nonattainment |
| CO | primary nonattainment |
| Lead | attainment |

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as severe nonattainment for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) Lake County has been classified as nonattainment for PM10, CO (portions only), and $SO_2$. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

**Federal Rule Applicability**

(a) There are no New Source Performance Standards (326 IAC 12) 40 CFR Part 60 applicable to this facility.

(b) There are no National Emissions Standards for Hazardous Air Pollutants (326 IAC 14) 40 CFR Part 63 applicable to this facility.

**State Rule Applicability**

326 IAC 2-6 (Emission Reporting)

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 10 tons/yr volatile organic compounds (VOC) and oxides of nitrogen (NOx). Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by April 15 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 2-3 (Emission Offset)

The potential NOx emissions from the project, when added to the increases from other projects within a five year contemporaneous period, are still less than the de minimus level of 25 tons per year. Additionally, the VOC emissions from the project are less than 15 pounds per day. Therefore, 326 IAC 2-3 does not apply.

326 IAC 8-1-6 (General Reduction Requirements for New Facilities)

The existing conventional oven has been operating at the source pursuant to this rule. The volatile organic compounds (VOC) emissions are limited to 10 pounds per hour and 43 tons per year.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)

(a) There are no baseline emissions for the new thermal oxidizer. Therefore, the new thermal oxidizer is not subject to 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties).

(b) This rule applies to the existing conventional oven rated at 9 million British thermal units per hour (MMBTU/hr) because this stationary source is located in Lake County and have potential to emit volatile organic compounds (VOC) at levels greater than 25 tons per year.

326 IAC 2-3-4 (Emissions Offset: Banking of Emission Offsets)

The source cannot bank the emissions reductions from the source modification project because an installation of the new thermal oxidizer will satisfy the requirements of 326 IAC 8-7-2 and will achieve an overall control efficiency of 81 %. Pursuant to 326 IAC 2-3-4, an existing source that reduce its own emissions beyond those required by this title (326 IAC) may bank its excess emission reduction with the prior approval of the commissioner.

**Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

None of the listed air toxics will be emitted due to the changes covered by this modification.

**Conclusion**

The operation of the Line 91 Control System shall be subject to the conditions of the attached proposed **Minor Source Modification No. 089-10909-00013**.

**Appendix A: Emission Calculations**
**(Net Emissions Increases Over a Five Year Period)**

**Company Na** **Rieter Automotive North America, Inc.**
**Address City** **101 West Oakley Avenue, Lowell, Indiana 46356**
**CP:** **089-10909**
**Plt ID:** **089-00013**
**Reviewer:** Janusz Johnson
**Date:** June 3, 1999

| CP # | Date of Issue | Status | Equipments Covered | Tons PM | VOC | NOx | CO |
|---|---|---|---|---|---|---|---|
| 089-4282-00013 | 1-12-1995 | Exemption | Pneumatic Fiber Blend Line | 2.80 | 0.00 | 0.00 | 0.00 |
| 089-4719-00013 | 9-26-1995 | Registration | Steam Boiler NAVA Curing | 0.20 | 0.00 | 3.30 | 1.00 |
| 089-4774-00013 | 11-6-1995 | Registration | Foam Part line Consisting Electrical Oven | 4.00 | 4.20 | 0.00 | 0.00 |
| 089-5604-00013 | 07-30-1996 | CP | 200 HP Fire pump * | 0.11 | 0.13 | 4.41 | 0.33 |
| 089-8167-00013 | 05-05-1997 | Registration | New Equip. to Modify Line | 0.02 | 0.4 | 0.13 | 0 |
| 089-8353-00013 | 09-08-1997 | Exemption | Foam Part Cell to produce molded polyurethane | 0.00 | 0.30 | 0.00 | 0.00 |
| | | | **Contemporaneous Increa** | **7.13** | **5.03** | **7.84** | **1.33** |
| 089-10909-00013 (revision of 089-921 | | | LIne 91 Thermal Oxidizer ** new emissions from NH4 -> | 0.00 | 0.20 | 3.91 6.13 | 4.00 |
| | | | **Total Contemporaneous I** | **7.13** | **5.23** | **17.88** | **5.33** |

* Potential to emit (PTE) of the fire pump is limited based on an enforceable limitation on fuel usage (1,199 gallons of fuel per month) which was included in CP-089-5604.

** Potential emissions from the thermal oxidizer (T.O.) are based on AP-42 emission factors and an alternate emission factor for NOx of 1.26 lb/hr proposed by the applicant based on stack testing. The emissions reflected in the table are net emissions and account for the decrease in combustion emissions from the removal of the old T.O. (3.7 MMBtu/hr ~ 1.6 tons/yr NOx reduction).

*** Based on revised NOx emission rate information submitted by the applicant, the potential emissions from the thermal oxidizer exempted in CP-089-9217-00013 should have accounted for the increased flow of NH4 which resulted from the ductwork changes. This increased NH4 loading to the T.O. will result in increased NOx emissions from this process. The increase in NOx emissions from the duct work modifications is 1.40 lbs/hr (6.13 tons/yr) and has been added as emissions for the project.

*NOTE:*
*The following approvals, while issued during the contemporaneous period, have not been included in this analysis for the following reasons:*
*(a) CP- 089-4301-00013, 089-4461-00013, 089-4717-00013, 089-4718-00( ~ Facilities were actually constructed and operated prior to the contemporaneous period.*
*(b) CP- 089-6837-00013 ~ Modifications to Line 92 were never constructed or operated.*
*(c) CP- 089-5242-00013, 089-5351-00013, 089-4642-00013 ~ Administrative Amendments*